

QA/QI on Compliance to CDC guidelines for Hepatitis B vaccination rates among internal medicine residents

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Subject area: QA/QI

Background

Patients with diabetes mellitus (DM) are at increased risk of being infected by the hepatitis B virus (HBV) and developing complications compared to non-diabetic patients.¹⁻² Since 2011, CDC vaccination guidelines establish that patients aged 19-59 should be vaccinated for HBV as soon as possible after the diagnosis of DM.¹ This QA project aims to determine HBV vaccination rates among eligible patients with DM at the outpatient medicine clinic.

Methods

A convenience sample of patients with DM ages 19-59 treated by residents at the internal medicine clinic was obtained through retrospective chart review. The patients' initial visit was obtained from the 10-week interval September 16th to November 25th, 2019. Once a patient's case was identified, the chart was reviewed for internal medicine clinic encounters in the following year, and the HBV vaccination practices were obtained. Continuous variables are presented as means \pm standard deviations, categorical variables as absolute values and frequencies, and confidence intervals were calculated at 95%.

Results

A sample of 197 patients (57% female, mean age 51 ± 7.2) with DM was obtained. The average HbA1c was 8.86 ± 4 (95% CI 8.28 to 9.44). At the initial encounter, 14 patients (7.1%) were already immune or vaccinated for HBV. Of the remaining 183 non-immune patients, only 14 (7.6%; 95% CI 3% - 11%) received at least one vaccine dose during the 1-year follow-up (two received 1 dose, ten received 2 doses, and 2 received 3 doses).

Discussion

Compliance with HBV vaccination guidelines can improve. Only 7.6% of eligible patients with DM started/completed HBV vaccination during 12 months. Even in the best-case scenario of 11% target-population vaccination rates, there is still room for improvement. Study limitations include the effects of the covid-19 pandemic on vaccination practices and the possibility of patients receiving the vaccine elsewhere without documentation in our system.

References

1. CDC. Use of hepatitis B vaccination for adults with diabetes mellitus: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Morb Mortal Wkly Rep. 2011;60:1709–11.
2. Schillie S, et al. Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices. MMWR Recomm Rep. 2018;67:1-31.